

Confidential Claim Retracted

Authorized by: SC

Date: 6/12/13

P. O. Box 26124
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April 23, 1980

Mine Examination Report
Jackpile-Paguate Mine
Anaconda Copper Company
Pueblo of Laguna Uranium Leases 1, 4, and 6
Townships 10 and 11 North, Range 5 West, N.M.P.M.
Valencia County, New Mexico
April 23, 1980

April 8, 1980, I inspected the open-pit and underground mining operations at the Jackpile-Paguate Mine. I was accompanied through the open-pit operations by Mr. Erwin Green, and through the underground workings by Mr. Dave Collins. The inspection was conducted to examine the on-going mining and the progress of the operations since the last inspection of September 14, 1979.

Both the North and South Jackpile Pits are active, and the on-going operations are summarized on the attached sheets. Mr. Green noted that thick and spotty ore has caused recent mining in the North Jackpile Pit to be uneconomical; in particular, 40 percent of the uranium pounds in the NJ-17 and 23 pushback did not exist as indicated by drilling, and the NJ-27 pushback experienced an overall loss of 8 percent of the uranium pounds, for the same reason. These losses have necessitated careful re-evaluation of planned extensions of the North Jackpile Pit, and it now appears that the NJ-29 and NJ-45 pushbacks are not economical for open-pit mining. Additional drilling is being conducted in the NJ-29 pushback to determine whether or not that area should be backfilled. An adit project from the bottom of the NJ-37 pushback might permit recovery of the NJ-45 ore, but no plans have been initiated as yet. It also appears that plans for the proposed underground Gavilan Mesa Mine have been cancelled due to the low grade of the ore involved. Mr. Green pointed out that mining in the South Jackpile Pit is almost finished. Stripping of the last SJ-6 pushback will commence in June, when the SJ-19 and 31, and SJ-43 pushbacks have been completed, and a small ore chimney will be recovered from under the 17-E ore stockpile when all of that stockpile has been shipped.

The previously active North Dump and Gavilan Mesa Dump are no longer being used for the Jackpile mining operations, as all overburden and waste are either being stored as topsoil, or backfilled into completed pushbacks. A topsoil stockpile has



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been placed on the North Dump, and some of the waste from the Dump may eventually be used as backfill material. I observed that the Gavilan Mesa Dump has turned black due to the black shale placed there. Mr. Green stated that swelling of the wet shale has caused sloughing of the Tres Hermanos material used to cover the dump.

Five ore stockpiles are being used for the Jackpile mining operations. The large protore stockpile SP-1 is expanding north and west within the North and South Jackpile Pits, so that it can be buried if the material cannot be shipped and processed economically.

The active shipping stockpiles J-9, J-10, J-11, and 17-E are all located in the South Jackpile Pit. The 17-E stockpile contains approximately 2.8 million tons of ore at 0.053 percent U_3O_8 , while the J-9, J-10, and J-11 stockpiles are much smaller due to regular shipping of the higher grade ore contained in them.

The North and South Paguate Pits are also active (see attached summary of current operations). All open-pit mining in the North Paguate Pit will be finished with the completion of four relatively small pushbacks now in progress. All overburden and waste from these pushbacks is being backfilled into completed pushbacks, or is being stockpiled as topsoil. Several new pushbacks are being developed in the South Paguate Pit, but several other planned pushbacks have been cancelled for economic reasons. The newest SP-39 pushback will conclude open-pit mining in the South Paguate Pit with the cancellation of the SP-35, SP-38, SP-40, SP-41, SP-42, and SP-44 pushbacks. Mr. Green pointed out that 40 percent of the uranium pounds in the SP-16 pushback did not exist as indicated by drilling. This is unusual, as the South Paguate ore is generally very uniform.

There are no active waste dumps for the Paguate mining operations as all overburden and waste ore are being stockpiled or backfilled. Five active ore stockpiles are all located in the North Paguate Pit, and all are quite small due to regular shipping of their contents. The SP-9, SP-6, and 2-E stockpiles are for open-pit ore while the U-5 and U-25 stockpiles are for ore from the underground P-10 and PW2-PW3 operations. Shipping of the large 3-C stockpile has been completed, and the large 1-B and 2-C protore stockpiles are no longer being used. A new protore stockpile, SP-1, is being located in the north end of the completed SP-16 pushback, so that the material can be buried if it cannot be processed economically.

Open-pit production for 1980 is shown on the attached excavation report. Mr. Green noted that the contractor's total tonnages (overburden and mining waste) for both February and March were over four million tons. Better breaking overburden and shorter haulage distances were the primary reasons for the increases, but the contractor has also transferred additional equipment from another operation to the Jackpile-Paguete Mine.

During the inspection of the open-pit operations, I discussed Anaconda's recent test of hydraulic mining methods with Mr. Green. This test was conducted in cooperation with the U. S. Bureau of Mines, and the location of the test was a small area just north of the North Paguate Pit. This area contains some small isolated ore pods that cannot be recovered by open-pit or underground methods. Mr. Green stated that the test was not successful due to the inefficiency of the hydraulic mining tool's slurry pump. The slurry pump could not evacuate the borehole, and the high-pressure jets could not cut the host rock when the hole filled with water. The Bureau of Mines is re-designing and testing the slurry pump, and the hydraulic mining experiment will be tried again, if the new slurry pump proves adequate.

Before inspecting the underground workings, I discussed the operations with Mr. Ronald Ringhand and Mr. Collins. There has been no action on the approved P-15/17 Mine, and Anaconda has still not obtained Pueblo of Laguna approval to recover about 30 percent of the P-15/17 ore reserves through the southernmost extension of the P-10 Mine. Development of the P-15/17 Mine now appears to be very doubtful for economic reasons. The active PW2-PW3 Adit Project in the North Paguate Pit is almost complete.

All ore in the southern part of the Project has been mined, and haulage and access drifts are now being driven to recover the ore zones to the northeast. Ore production from the Project is minimal (500 tons in March 1980), and Mr. Ringhand estimates that about 2,000 tons remain to be mined. All ore recovery should be completed by the first of June 1980. Mr. Ringhand noted that the miner training school is still being conducted in waste in the northern part of the PW2-PW3 Project, but Anaconda has requested permission to move the school to the abandoned H-1 Adit Project near the South Jackpile Pit. Moving of the school is necessary to avoid delaying the backfilling of the North Paguate Pit in the PW2-PW3 area.

The active P-10 Mine is now producing approximately 1,200 tons of ore per day. The Mine has five extraction stopes, and eighteen development stopes. Another five stopes have been developed, and

are being readied for pillar extraction. Mr. Ringhand noted that the only haulage development to be completed is in the southernmost part of the P-10 Mine, and that the P-7 area will be finished by the end of 1980 or first of 1981. The P-18 area is now being developed, and will be the last expansion of the underground operations. Production from the P-18 area should reach 50 percent of the estimated maximum by mid-1980.

After our discussion, I inspected the P-18 area of the P-10 Mine with Mr. Collins. We examined the 3602 and 3604 Stopes, which are located 30 to 35 feet above the haulage level. These are the only extraction stopes in the P-18 area, and the ore is from two to four feet thick at an average grade of 0.15 to 0.25 percent U_3O_8 . Mr. Collins noted that ground conditions in the area are relatively good, but there have been some problems with the erratic nature of the ore. We also examined the 3601, 4201, and 4202 Stopes in the P-18 area. The completely developed 3601 Stope is just north of the 3602 and 3604 Stopes, and pillar recovery will commence upon completion of those extraction stopes. The 4201 and 4202 Stopes are just being developed about 70 feet above the haulage level.

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Dale C. Jones
Mining Engineer

Attachments

cc: Original to Superintendent, Southern Pueblos Agency, BIA
Governor, Pueblo of Laguna (W/Encls.)
File - Inspections
Field File - Jones
Chrono

DCJones:ab: 04-23-80